<u>**Amendments to the Drawings:**</u>

Figure 1 has been amended to indicate that Figure 1 shows prior art. No new matter is added.

Attachment: Replacement Sheets (7)

<center>REMARKS/ARGUMENTS</center>

Claims 1-33 are pending in the present application. Claims 14, 15, 16, 18, 21, and 22 are amended to correct a clerical mistake as observed by the Examiner (Office Action dated November 2, 2006, pp. 3-4). Reconsideration of the claims is respectfully requested.

I.   Objection to the Drawings

The Examiner stated the following in regards to the drawings:

> Figure 1 is should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP §608.02(g). Corrected drawings in compliance with 37 CFR 1.12 1 (d) are required in reply to the Office Action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the Examiner, the applicant will be notified and informed of any required corrective action in the next Office Action. The objection to the drawings will not be held in abeyance.
>   The Examiner notes an abnormality in the scanned record. A separate figure 4/4 is present in addition to the six pages of drawings. The Examiner would appreciate the Applicant resubmitting the formal drawings again to ensure the proper drawings are recognized in the electronic record.

Office Action dated November 2, 2006, p. 2.

Applicants have made the necessary changes to the drawings to overcome the objection. The formal drawings will be resubmitted to ensure the proper drawings are recognized in the electronic record.

II.   Objection to the Specification

The Examiner stated the following in regards to the specification:

> The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. Legal words such as "method" and "system" should be removed.

Office Action dated November 2, 2006, p. 2.

Applicants have amended the title from "Method, System, and Computer Program Product For Automatic Software Distribution and Installation in a Multi-Tiered Computer Network" to "Automatic Software Distribution and Installation in a Multi-Tiered Computer Network." The Examiner's objection should now be overcome.

III. 35 U.S.C. §101

The Examiner rejects claims 12-33 under 35 U.S.C. §101 as being directed towards non-statutory subject matter. This rejection is respectfully traversed.

The Examiner asserts the following:

> **Claims 12 - 33** are rejected under 3 5 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The current focus of the Patent Office in regard to statutory inventions under 35 U.S.C. §101 for method claims and claims that recite a judicial exception (software) is that the claimed invention recite a practical application. Practical application can be provided by a physical transformation or a useful, concrete and tangible result. No physical transformation is recited and additionally, the final result of the claim is for distributing software which is not a tangible result because is not clearly claimed to be tangibly embodied on a computer readable medium. The following link on the World Wide Web is for the United States Patent And Trademark Office (USPTO) policy on 35 U.S.C. §101.
>
> http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines1 01_20051026.pdf
>
> Using claim 12 as an example the following amendment would overcome the rejection for claim 12.
>
> **Claim 12**
> A data processing system for automatically distributing and installing software file packages throughout a multi-tiered computer architecture hierarchy, said hierarchy including a global tier, a hub tier that is below said global tier, and a target tier that is below said hub tier, said system comprising: a global computer system that is located in said global tier receiving a distribution request to distribute a file package to a target computer system that is located in said target tier;
> said global computer system starting a distribution process in said hub computer system;
> said global computer system distributing said file package and an installation process to said hub computer system that is located in said hub tier;
> said hub computer system utilizing said distribution process to automatically distributing said file package and said installation process to said target computer system; and
> said target computer system automatically installing said file package **on a computer readable medium** utilizing said installation process.

Office Action dated November 2, 2006, p. 3.

The Examiner is incorrect in asserting that claims 12-33 are directed towards non-statutory subject matter. Claim 12 complies with the standards presented in the MPEP and as required by accepted case law. Claim 12 is directed towards <u>a data processing system</u> for automatically distributing and installing software file packages throughout a multi-tiered computer architecture hierarchy.

As the Supreme Court has held, Congress chose the expansive language of 35 U.S.C. §101 so as to include "anything under the sun that is made by man." *Diamond v. Chakrabarty*, 447 U.S. 303, 308-09, 206 USPQ 193, 197 (1980). Accordingly, §101 of title 35, United States Code, provides:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

35 U.S.C. §101, See also MPEP §2106.

Claim 12 specifically claims a data processing system. A data processing system is clearly a machine and thus, is patentable subject matter under 35 U.S.C. §101 and under the standards of *Diamond v. Chakrabarty*.

Additionally, the claimed invention produces a useful, concrete, and tangible result. A tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing (*See*, www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf, p. 21). The present invention as recited in claim 1 provides a useful, concrete, and tangible result in that it automatically distributes and installs software file packages throughout a multi-tiered computer architecture hierarchy. This system therefore operates on other physical, tangible systems. Therefore, the Examiner's assertion is contrary to existing case law and the MPEP guidelines. Additionally, claim 12 recites patentable subject matter under 35 U.S.C. §101.

Because claims 13-33 were rejected for the same reason as claim 12, the same facts apply to claims 13-33. Thus, Applicants have shown that the claims recite statutory features under 35 U.S.C. §101, as provided by the MPEP, the interim guidelines, and the standards of accepted case law. Accordingly, the rejection of claims 13-33 under 35 U.S.C. §101 should be withdrawn.

IV.   **Examiner Observation**

The examiner stated that, "It is possible the claims Applicant intended to be dependent on claim 12 are not." Applicants have amended the claims accordingly in response to this observation.

V.   **35 U.S.C. §102, Anticipation**

The Examiner rejects claims 1, 12, and 23 under 35 U.S.C. §102 as anticipated by the commercial product HP OpenView as documented in the *Nathan Muller*, Focus on OpenView: A Guide to Hewlett-Packard's Network and Systems Management Platform, CBM Books, 1995 (hereinafter "*Muller*"). This rejection is respectfully traversed.

Regarding claim 1, the Examiner asserts the following:

> OpenView anticipates automatically distributing and installing software file packages (HP, pages 184, Synchronization and Change Orchestration) throughout a multi-tiered computer architecture hierarchy (HP, Supports many topologies pages 2 10-21 6,229-230,246-250) , said hierarchy including a global tier, a hub tier that is below said global tier, and a target tier that is below said hub tier (As per above and HP, pages 2 - IS), said method comprising the steps of:
>> receiving, within a global computer system that is located in said global tier, a distribution request to distribute a file package to a target computer system that is located in said target tier (HP, pages 179 - 182); starting, by said global computer system, a distribution process in said hub computer system; distributing said file package and an installation process (HP, pages 182 - Software Management) from said global computer system to said hub computer system that is located in said hub tier; automatically distributing said file package and said installation process to said target computer system from said hub computer system utilizing said distribution process (as per the cited sections above); and
>> automatically installing, by said target computer system, said file package utilizing said distribution process (HP, page 18 1, Target System).

Office Action dated November 2, 2006, pp. 4-5.

A prior art reference anticipates the claimed invention under 35 U.S.C. §102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. In re Bond, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994). The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.,* 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). In this case each and every feature of the presently claimed invention is not identically shown in the cited reference, arranged as they are in the claims.

Claim 1 is as follows:

> 1.   A method in a data processing system for automatically distributing and installing software file packages throughout a multi-tiered computer architecture hierarchy, said hierarchy including a global tier, a hub tier that is below said global tier, and a target tier that is below said hub tier, said method comprising the steps of:
>> receiving, within a global computer system that is located in said global tier, a distribution request to distribute a file package to a target computer system that is located in said target tier;
>> starting, by said global computer system, a distribution process in said hub computer system;
>> distributing said file package and an installation process from said global computer system to said hub computer system that is located in said hub tier;
>> automatically distributing said file package and said installation process to said target computer system from said hub computer system utilizing said distribution process; and

automatically installing, by said target computer system, said file
package utilizing said installation process.

Muller does not anticipate claim 1 because *Muller* does not teach each and every feature as
recited in claim 1. For example, *Muller* does not teach distributing and installing software file packages
throughout a multi-tiered computer architecture hierarchy, said hierarchy including a global tier, a hub tier
that is below said global tier, and a target tier that is below said hub tier. The Examiner asserts otherwise,
citing to *Muller*, pages 2-8.

Muller, pages 2-8 discusses the OpenView Framework. The OpenView Framework includes
system management tools for facilitating central monitoring and control of multiple systems (*Muller*, p.
2). Additionally, the OpenView Framework includes Network management tools for integrating LAN
and WAN multi-vendor environments under central control (*Muller*, p. 3). The OpenView Framework
also includes OpenView Components for providing an infrastructure for the management of computing
environments (*Muller*, p. 3). The OpenView Framework also includes presentation services, such as user
displays (*Muller*, p. 4). Furthermore, the OpenView Framework includes Distributed Communication
Infrastructure for making it possible for management applications to access the services of OpenView
across a network. Lastly, the OpenView Framework includes event management and data management
services. Event management services gather and forward such events as node failures and application
changes, while data management services allow information about network elements to be stored in a
common location (*Muller*, p. 6).

Muller teaches that the OpenView Framework consists of tools for managing and monitoring of
the network. However, *Muller* does not teach distributing and installing software file packages
throughout a multi-tiered computer architecture hierarchy, said hierarchy including a global tier, a hub tier
that is below said global tier, and a target tier that is below said hub tier. Specifically, *Muller* does not
teach "a global tier, a hub tier that is below said global tier, and a target tier that is below said hub tier" as
recited in claim 1. The cited portion of *Muller* makes no teaching regarding a multi-tiered computer
architecture hierarchy as recited in claim 1.

Additionally, *Muller* does not teach the features of "starting, by said global computer system, a
distribution process *in said hub computer system* and distributing said file package and an installation
process from said global computer system *to said hub computer system* that is *located in said hub tier,"*
as recited in claim 1. The Examiner asserts otherwise, citing to *Muller*, pages 179-182.

Muller, pages 179-182 discusses the OpenView Software Distributor. The Software Distributor
assists administrators in managing every aspect of software configuration, verification, and removal,
significantly reducing costs in media duplication, travel and time (p. 180). One or more distribution

depots contain software that is available for installation to other systems, called target systems, in the network. *Id.* The controller system manages the software distribution process (Figure 8-7). *Id.*
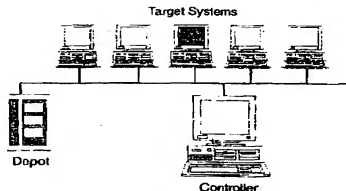
Target Systems

Depot

Controller

Figure 8-7: Software Distribution Environment

       Muller, p. 181, Figure 8-7: Software Distribution Environment

       Additionally, the Software Distributor helps the administrators locate available depots and retrieve detailed information on software products in the depot catalog (p. 180). This information includes product name, revision, descriptions, and hardware and software dependencies. *Id.*

       Furthermore, the Software Distributor supports the unique configuration of each target system (p. 181). The controller system is *any* system using Software Distributor to manage the software distribution process (p. 182).

       The above portion of *Muller* teaches a method for distributing software to target systems. However, *Muller* does not teach the feature "distributing said file package and an installation process from said global computer system *to said hub computer system* that is located in said hub tier' as recited in claim 1. *Muller*'s teaching is contrary to the present invention as depicted in Figure 8-7. Figure 8-7 does not depict a computer architecture hierarchy that includes a global tier, a hub tier that is below said global tier, and a target tier that is below said hub tier. Figure 8-7 shows that the controller system is directly linked to the target systems and the distribution depots. *Muller* does not teach a hub tier that is below said global tier, and a target tier that is below said hub tier. Because *Muller* does not teach said hub tier, *Muller* consequently cannot teach the features "starting, by said global computer system, a distribution process *in said hub computer system* and distributing said file package and an installation process from said global computer system *to said hub computer system* that is *located in said hub tier'* as recited in claim 1.

Additionally, because *Muller* does not teach said hub tier, *Muller* inherently cannot teach the feature "automatically distributing said file package and said installation process to said target computer system *from said hub computer system* utilizing said distribution process." Consequently, *Muller* does not anticipate the claim 1.

Because claims 12 and 23 was rejected for the same reasons as claim 1, the same distinctions between *Muller* and the invention of claim 1 apply to claims 12 and 23. Consequently, the rejection of claims 1, 12, and 23 under 35 U.S.C. §102 have been overcome.

Furthermore, *Muller* does not teach, suggest, or give any incentive to make the needed changes to reach the presently claimed invention. Absent the Examiner pointing out some teaching or incentive to implement *Muller* with a multi-tiered computer architecture hierarchy, wherein said hierarchy included a global tier, a hub tier that is below said global tier, and a target tier that is below said hub tier, one of ordinary skill in the art would not be led to modify *Muller* to reach the present invention when the reference is examined as a whole. Absent some teaching, suggestion, or incentive to modify *Muller* in this manner, the presently claimed invention can be reached only through an improper use of hindsight using Applicants' disclosure as a template to make the necessary changes to reach the claimed invention.

VI.   35 U.S.C. §103, Obviousness

The Examiner rejects claims 2-11, 13-22, and 24-33 under 35 U.S.C. §103 as being obvious over *Muller* in view of the CORBA as documented by *Alex Gregor*, IBM Component Broker on System/390, IBM Corp., 1998 (hereinafter "CORBA"). This rejection is respectfully traversed.

Regarding claim 2, the Examiner states:

> The method according to claim 1, further comprising the steps of:
> providing a three-tier CORBA network, said CORBA network including a hub CORBA ORB coupled to a second spoke COMA ORB, and said spoke CORBA ORB being coupled to a gateway CORBA ORB, wherein said hub CORBA ORB occupies said hub tier of said architecture, said spoke CORBA ORB occupies a spoke tier of said architecture, said spoke tier between said hub tier and a gateway tier, and said gateway CORBA ORB occupies said gateway tier, said gateway tier being located between said gateway tier and said target tier; and coupling said global computer system to said three tier CORBA network, said global computer system occupies a top tier of said architecture over said first tier, said global computer system functioning as a CORBA ORB and treating said hub CORBA ORB as a managed node. (CORBA, Chapter2, topology).
> OpenView from 1995 does not explicitly teach using the OMG standard CORBA. It is IBM a member of OMG who teaches the use of CORBA for distribution (CORBA, Chapter 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the teaching of HP and CORBA, because, using an industry standard makes support more available.

Office Action dated November 2, 2006, p. 6.

VI.A. The Examiner Has Failed to Present a *Prima Facie* Case of Obviousness Because the Combination of the References Do Not Teach or Suggest All the Features of Claim 2.

Regarding claim 2, the Examiner failed to state a *prima facie* obviousness rejection because the proposed combination does not teach or suggest all of the features of claim 2. A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. *In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993). All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994). In the case at hand, not all of the features of the claimed invention have been properly considered and the teachings of the references themselves do not teach or suggest the claimed subject matter to a person of ordinary skill in the art.
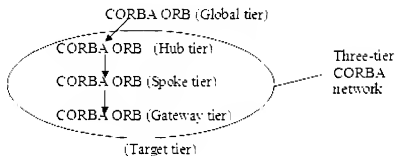
Claim 2 is as follows:

> 2.   The method according to claim 1, further comprising the steps of:
>   providing a three-tier CORBA network, said CORBA network including a hub CORBA ORB coupled to a second spoke CORBA ORB, and said spoke CORBA ORB being coupled to a gateway CORBA ORB, wherein said hub CORBA ORB occupies said hub tier of said architecture, said spoke CORBA ORB occupies a spoke tier of said architecture, said spoke tier between said hub tier and a gateway tier, and said gateway CORBA ORB occupies said gateway tier, said gateway tier being located between said gateway tier and said target tier; and
>   coupling said global computer system to said three-tier CORBA network, said global computer system occupies a top tier of said architecture over said first tier, said global computer system functioning as a CORBA ORB and treating said hub CORBA ORB as a managed node.

Addressing the rejection of claim 2, the Examiner has failed to state a *prima facie* obviousness rejection because neither *Muller* nor CORBA teach or suggest all features of claim 1, from which claim 2 depends. As discussed above, *Muller* does not teach the claimed feature of distributing said file package and an installation process from said global computer system to said hub computer system that is located in said hub tier. Because *Muller* does not teach said hub tier, *Muller* also does not suggest the features of claim 1.

Furthermore, CORBA also does not teach or suggest all of the features of claim 1. The Common Object Request Broker Architecture (CORBA) *is a standard* defined by the Object Management Group (OMG) that enables software components written in multiple computer languages and running on multiple computers to interoperate (CORBA, p. 15). However, CORBA does not teach the features of claim 1. Because CORBA is just a standard (i.e., a set of rules/protocols) for enabling software components to interoperate, CORBA also does not suggest the features of claim 1.

Because neither *Muller* nor CORBA teach or suggest all of the features of claim 1, and because claim 2 depends from claim 1, the proposed combination of *Muller* and CORBA when considered as a whole does not teach or suggest all of the features of claim 2. Accordingly, the Examiner has failed to state a *prima facie* obviousness rejection of claim 2.

Additionally, the proposed combination of *Muller* and CORBA, when considered as a whole, also does not teach or suggest all of the features of claim 2. The features of claim 2 are illustrated as follows:

The Examiner mistakenly asserts CORBA, chapter 2 teaches the features of claim 2. Chapter 2 discusses the Component Broker. The Component Broker is composed of a set of technologies that facilitate distributed object applications (p. 89). The Component Broker provides a server for Business Objects (p. 89). Object services assist the server in taking care of objects, creating objects, finding objects, and managing the life cycle of objects in general (p. 90). The Component Broker is delivered with a set of management tools. These tools assist in installing, monitoring and running the server (p. 92).

Despite all the teachings in regards to the Component Broker, CORBA does not teach the features of claim 2. CORBA does not teach or suggest a three tier CORBA network as recited in claim 2 coupled to said global computer system, wherein said global computer system occupies a top tier of said architecture over said first tier. If the Examiner insists that CORBA teaches the features of claim 2, Applicants respectfully request that the Examiner point out with particularity where CORBA teaches the features of claim 2.

Because both *Muller* and CORBA do not teach or suggest the features of claim 2, the proposed combination when considered as a whole also does not teach or suggest all of the features of claim 2. Accordingly, the Examiner has failed to state a *prima facie* obviousness rejection of claim 2.

Furthermore, at least by virtue of their dependency, the Examiner has failed to state a *prima facie* obviousness rejection against claims 3-11, 13-22, and 24-33. Consequently, the rejection of claims 2-11, 13-22, and 24-33 under 35 U.S.C. §103 has been overcome.

VII.   Examiner's Comment

The Examiner stated the following comment:

The "distribution request" is nebulous as to the origin in the claims.

Office Action dated November 2, 2006, p. 12.

In regards to the Examiner's comment, Applicants assert that the origin of the distribution request need not be recited in the claim. The specification states the following:

> In order to efficiently distribute software file packages throughout the computer network, a distribution request may be sent to the global computer system. The distribution request includes a file package block that includes one or more file package requests. Each file package request is a request to either install or remove a particular software file package. In addition, the file package block will also include software file packages that are to be installed as well as scripts that can be used to install the file packages. The distribution request also includes an identification of all computer systems on which the file packages are to be installed.

> The global computer system executes a distribution and a notification script that receives distribution requests. A queue is included within the global computer system for storing distribution requests. Requests in the queue are processed in the order received. The global computer system reads the next request from the queue, and prepares the hub computer systems to process the distribution request. The global computer system checks each hub to make sure it is available, and if it is available, locks the hub using a unique request identifier that has been assigned to the distribution request. The hub queues all other requests while it is locked and is thus prevented from processing other requests while it is locked.

> ...

> The present invention provides three different methods for initiating a distribution. The distribution may be completely automatic within the computer network by starting the distribution via an email message. An email message may be sent to the global computer system that includes a distribution request. A mail script executing within the global system will retrieve the email, create a request identifier for the distribution request, and forward the distribution request and request identifier to the distribution and notification script executing within the global computer system for processing.

> A user may initiate a distribution via a web browser by completing a distribution request form. The web browser will then assign a unique request identifier to the request and forward the distribution request and request identifier to the distribution and notification script executing within the global computer system for processing.

> A user may initiate a distribution via a command line. This method does not generate a request identifier and thus should only be used for debugging purposes.

(Specification, p.8, line 22 through p. 9, line 16 and p. 10, line 20 – p. 11, line 10).

The specification defines a distribution request. The specification also identifies three different methods for initiating a distribution request. For at least this reason, one of ordinary skill in the art can ascertain the meaning of this claimed term as used in the claims. Therefore, the term "distribution request" is not nebulous as to the origin in the claims.

VIII.   Conclusion

The subject application is patentable over the cited references and should now be in condition for allowance. The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

DATE: <u>February 2, 2007</u>

Respectfully submitted,

<u>/Theodore D. Fay III/</u>

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